

### REMARKS

Claim 1 has been amended. Support for the amendments can be found in the Specification as filed, for example, in paragraphs [0023]-[0027]. Therefore, no new matter has been introduced by these amendments. The following addresses the substance of the Office Action.

#### Non-obviousness

The Examiner has maintained the rejection of Claims 1-18 under 35 USC §103(a) as being allegedly unpatentable over DE 198 55 666 and Lehmkuhl et al. (USP 6,652,730) in combination with Dotzer et al. (USP 3,969,195). Lehmkuhl is an English equivalent of DE 198 55 666.

The Examiner states that Dotzer already describes pretreatment in an aprotic organoaluminum electrolyte to remove the oxidic coating (col. 6, lines 30 – 42). The Examiner argues that it would be obvious to use the electrolytes which are described in Lehmkuhl also for this purpose. Furthermore, Dotzer already describes the pretreatment of beryllium and aluminum with such an aprotic organoaluminum electrolyte.

However, the subject of the presently claimed invention is to provide a pre-treatment process which can be used for several substrates, such as aluminum/magnesium and zinc/magnesium alloys and not just for substrates like beryllium and aluminum. Such a broad application of this pretreatment process is not disclosed in Dotzer, where the pretreatment with an aprotic aluminum electrolyte is only described as applicable for the substrates beryllium and aluminum. It is furthermore explicitly described that usual aluminum electrolytes comprising halogens react with other substrate materials like magnesium, zinc or titanium to the respective halogene compounds so that a pre-treatment of these substrates is not possible and also no coating is possible if such an aluminum electrolyte is used for the treatment process. Dotzer explicitly states in column 1, starting from line 18, that substrates like magnesium, zinc or titanium can not be treated with the pretreatment process described in this reference because these metals produce on the surface fluoro-containing compounds so that a coating after the pretreatment is not possible (see column 6, lines 43 - 52). For these substrates Dotzer proposes to use a two-step pretreatment process namely a pretreatment with a halogen-free electrolyte and after that a coating with a halogen containing aluminum electrolyte. For the above substrates a

person skilled in the art can only take the teaching from Dotzer to use the two-step-pre-treatment process with two different electrolyte solutions. In conclusion, Dotzer teaches away from the currently claimed invention.

The Lehmkuhl et al. reference (USP '730) describes an electrolyte suitable for the deposition of aluminum/magnesium alloy layer. The electrolyte described contains  $K[AlEt_4]$  or  $Na[Et_3Al-H-AlEt_3]$  and  $Na[AlEt_4]$  and tetraalkylaluminum. Usually, the electrolyte is used in the form of a toluene solution and the electrolytic deposition is carried out by using a soluble aluminum anode and likewise a soluble magnesium anode or using an anode made of an aluminum/magnesium alloy. Lehmkuhl et al. neither mention anything about the pre-treatment procedure nor specifies what kind of solution is used for the pre-treatment.

As a consequence a person skilled in the art would follow the teaching in Dotzer and not use organoaluminum electrolytes for the pretreatment of substrates other than beryllium and aluminum. As in Lehmkuhl there is no hint to use the described electrolyte as a pretreatment electrolyte one would also not combine the two documents. Therefore, the combination of the cited references does not teach all the claim limitations and Dotzer effectively teaches away from the claimed invention.

On page 5, 1st paragraph, the Examiner points out that for the pretreatment the materials are only immersed in the electrolytic bath but that there is no electrolytic reaction during the immersing. However, the claim states that the material is connected as an anode therein. This implies that there is also an electric current and that there is an electrolytic reaction during the pretreatment process. Otherwise an anode would not exist. However, Applicant has now amended Claim 1 to make explicit what was implicit in the claim, and what is supported in the Specification as filed in paragraphs [0024] and [0027], to recite that the immersed material is anodically charged at the pretreatment step.

The further argument for the Examiner for the obviousness of the present invention is that the claims are open to having halogens in the electrolyte bath. Claim 1 has been amended to specify that the electrolytic bath is halogen-free, which is supported in the original claim 1, because claim 1 explicitly mentions that a halogen-free, aprotic solvent is used for the electrolyte.

For all these reasons, currently amended Claims 1-18 are non-obvious over the cited references, and their rejection under 35 USC §103(a) should be withdrawn.

Appl. No. : 10/528,125  
Filed : November 21, 2005

### Claim objections

The Examiner has objected to Claims 1, 4, 5 and 9. Claim 1 was objected for not reciting "an" after the word "comprising", Claim 4 was objected to reciting "," after "%", and Claims 5 and 9 were rejected for not reciting "bath" after "electrolyte". Claims 1, 4, 5, and 9 have been amended accordingly.

### CONCLUSION

Applicants have endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejections is specifically requested. If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully requested to initiate the same with the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: July 20, 2004

By: 

Marina L. Gorday  
Registration No. 52,950  
Agent of Record  
Customer No. 20,995  
(805) 547-5580

AMEND

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